

Serial No. 10/783,499

Docket No. Zipfel 1

REMARKS**Recent Procedural History**

On or about April 2, 2010, Examiner Shingleton forwarded by e-mail to the undersigned a suggested version of claim 1 that he said would be allowable. (Exhibit A)

On or about April 20, 2010, applicant e-mailed to The examiner a revised version of the Examiner's proposed claim. (Exhibit B) Applicant also pointed out, for at least the seventh time during the prosecution of this application, that the specific passband and stop band limitations of the load filters in claim 63 are not met by Prokin.

In response to the foregoing, the examiner left a voice mail for the undersigned attorney sometime during the week of May 17, 2010 indicating that a) the revised version of claim 1 would be allowable and b) that he was not prepared to allow claim 63, and c) that he was about to issue a Final Rejection in the application.

The Present Claims

Claim 1 as now presented is substantially the same claim that the examiner had said in his voice mail and the Final Office action would be allowable. (For clarity of the claim, applicant has added to the claim as approved by the examiner the phrase "of the first switching signal" in line 9 and the phrase "of the second switching signal" in line 13. Applicant has also deleted the extra word "signal" from line 9 in order to consistent with line 13 and various dependent claim recitations.)

Claim 3 is dependent from claim 1 and recites limitations similar to those previously present in claim 1.

Claim 4 has been amended to include the recitations previously in claim 3.

Claim 9—previously an independent claim—has been recast as a dependent claim dependent from claim 1.

Further claims have been canceled, leaving pending in the application, claims 1, 3-11, 13-17, 19-26, 30-33 and 63-69.

A number of the dependent claims have been amended to address "housekeeping" and/or minor error issues—particularly to add the word "reactive" so as to be clear that

Serial No. 10/783,499

Docket No. Zipfel 1

various recited "loads" are the "reactive" loads of claim 1, and to address other antecedent issues.

The withdrawn claims 12 and 27-29, all depending indirectly from claim 1, were withdrawn from prosecution responsive to a restriction requirement entered by the Examiner. Given that a) claim 1 is generic to the two-load and more-than-two-load embodiments, and b) claims 12 and 27-29 all depend indirectly from claim 1, there is no basis for these claims to be declared to be directed to a separate invention and they should be rejoined into this application and allowed at this time.

Rejection Under 35 USC 112

The rejection under 35 USC 112 is improper and is respectfully traversed.

The Examiner has not pointed to any claim recitation that he believes is not supported by the specification and thus has no basis to reject any claims on this basis. A rejection of this type can only be made after a) a *request* has been made for applicant to point out how applicant's claims are supported by applicant's disclosure and b) the applicant fails to do so. See, for example MPEP §704.11(a)(R).

With respect to claim 1, the issue is moot. Claim 1 is based on a the claim that Examiner deemed was allowable (Exhibit A). Clearly, then, the Examiner has satisfied himself that claim 1 is supported by the specification.

With respect to the rejection of the other claims, which applicant will treat as a *request*, the Examiner is respectfully directed to, for example, the various figures of the Office action of 05/24/2010 as marked up by the Examiner, as well as the entire file history of this application, all of which illustrate that the Examiner had long ago become knowledgeable—through his own analysis of applicant's disclosure and his analysis of generally corresponding elements in the Prokin reference—as to how the elements of applicant's claims align with applicant's claim recitations.

In short, there is no reasonable basis for this rejection.

Serial No. 10/783,499

Docket No. Zipfel I

Prior Art Rejections**Claims 1, 3-11, 13-17, 19-26, 30-33**

Based on the above discussion "Recent Procedural History," it is submitted that claim 1 is allowable.

Claims 3-11, 13-17, 19-26 and 30-33 all depend directly or indirectly from claim 1 and thus are also necessarily allowable.

Claims 63-69, Generally

In addition to applicant's arguments about the specific characteristic of the recited load filters in claim 63, applicant again repeats the arguments that have been made by applicant throughout this prosecution pointing to other substantive limitations in these claims that distinguish the invention from Prokin.

Serial No. 10/783,499

Docket No. Zipfel I

Claim 67 Specifically

Claim 67 recites the same phase relationships in claim 1 that the examiner seems to agree are not shown or suggested in Prokin. Specifically, independent claim 63 recites that the first and second switching signals have respective fundamental switching components that are of "substantially equal magnitude and phase" (claim 63, lines 16-17) and claim 67 goes on to recite that the baseband components of the first and second switching signals are of substantially equal magnitude and are "substantially the inverse of one another."

Given that claim 1 is allowable, claim 67 necessarily is allowable for at least the same reasons.

Finality of the Office Action Is Improper

It is requested that the finality of the Office action of 05/24/2010 be withdrawn.

As noted in the MPEP at §706.07

[P]resent practice does not sanction hasty and ill-considered final rejections. The applicant who is seeking to define his or her invention in claims that will give him or her the patent protection to which he or she is justly entitled should receive the cooperation of the examiner to that end, and not be prematurely cut off in the prosecution of his or her application. The examiner should never lose sight of the fact that in every case the applicant is entitled to a full and fair hearing, and that a clear issue between applicant and examiner should be developed, if possible, before appeal.

It is beyond question that, per the above instruction in the MPEP, applicant was attempting to define his invention in claims that would give him the patent protection to which he is entitled, and was cooperating in every way possible. The Examiner undercut those efforts by peremptorily issuing a final rejection while the parties were in active negotiation.

In particular, responsive to the non-final action of 09/24/2009, applicant amended the claims in his Response of 12/14/2009 in a way that had been specifically worked out

Serial No. 10/783,499

Docket No. Zipfel I

in advance by telephone with Examiner Parker (at a time when Examiner Shingleton was, as applicant understood, not available to work on the application.) Applicant made these specific amendments, as opposed to others that applicant had suggested to Examiner Parker, because applicant was led to believe that these amendments would finally resolve the outstanding issues and move the case toward allowance.

Rather than allow any claims based on those amendments, however, Examiner Shingleton, upon returning to the case, offered his own version of a claim (Exhibit A) which, in applicant's view did not properly define that which applicant regarded as the invention. Rather than insist on the claims that applicant has been seeking, applicant submitted a revised version of the *examiner's* claim (Exhibit B) in the hope that by working within the examiner's claim framework, applicant could achieve the allowance of some claims.

With the application in this posture, and with but a few days' notice, the Examiner chose to issue a final Office action based on the claims that had been worked out with Examiner Parker. As it turns out, the undersigned attorney was away from his New York office, in Massachusetts observing a major Jewish holiday (Shavuot) during the week of May 17, when the examiner left his voice mail, and thus had no opportunity to file an amendment based on the examiner's voice mail prior to the issuance of the Final Office action.

**Applicant to Petition Commissioner to Compel Examiner to Address
Applicant's Arguments vis-à-vis Claim 63**

In rejecting independent claim 63 under 35 USC 103, the Examiner has asserted that the load filters of claim 63— which correspond, for example, to load filters 39 and 43 of applicant's embodiment of FIG. 4A— find correspondence in Prokin's filters 41 and 42. Applicant has pointed out in at least six separate formal papers, viz.

Applicant's paper dated 11/10/2006, p. 20
Applicant's paper dated 12/26/2006, p. 14
Applicant's paper dated 07/09/2007, pp. 17-18

Serial No. 10/783,499

Docket No. Zipfel 1

Applicant's paper dated 12/10/2007, p. 18
Applicant's paper dated 10/27/2008 (Pre-Appeal Brief paper), p. 2)
Applicant's paper dated 12/14/2009, p. 16

that Prokin's filters 41 and 42 do not meet the limitation of claim 63, lines 7-9 stating that "each load filter [has] a passband that includes said particular switching frequency and having a stop band at frequencies higher than said particular switching frequency."

Applicant also expressly asked Examiners Shingleton and Parker, in a personal interview at the USPTO on November 27, 2007, to take account of this limitation—which had already been pointed to in three prior papers—and to provide a response to applicant's arguments. It was promised at that interview that this issue would be fully addressed in the next Office action.

Applicant has also brought this issue to the attention of Examiner Parker in numerous telephone conversations.

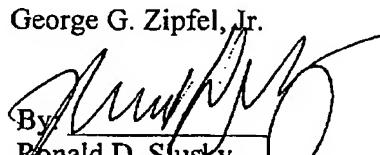
However, to applicant's knowledge, from that day until this, the examiner has never addressed this clearly distinguishing limitation.

Nor does it appear at this point that the Examiner intends to make any substantive response to applicant's arguments vis-à-vis the above-quoted limitation in claim 63.

In view of the foregoing, applicant is filing herewith a petition to the Commissioner petitioning that the examiner be directed to address the arguments made by applicant in response to the §103 rejection of claim 63.

Reconsideration is requested.

George G. Zipfel, Jr.

By 
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Date: 08/04/2010

Serial No. 10/783,499

EXHIBIT A

Docket No. Zipfel I

----- Original Message -----

From: Shingleton, Michael
To: ronald.slusky@verizon.net
Sent: Friday, April 02, 2010 2:38 PM
Subject: Proposed claim for 10/783,499

Hi Mr. Slusky:

Your voice message center says that this E-mail address is the best way to contact you. Therefore now having your approval, I have sent the attached proposed claim language in this E-mail.

I hope that it helps you and your client in achieving allowable claimed subject matter. It addresses what is needed and that is distinguishing structure not statements of intended use or the like.

The one fax you sent in has the number 212-246-4546 as the fax number from which the fax was received from. This also appears to be your voice line as well. I don't know if this will work as a fax but I will try. If you have a better fax number please provide.

In any case from your own words this E-mail address is the best way to contact your office and we have used it on official business as per your wishes again as it is the "best way to contact you".

/Michael B Shingleton/

Michael B Shingleton

Primary Examiner

Group Art Unit 2815

Serial No. 10/783,499

EXHIBIT A

Docket No. Zipfel I

Dear Mr. Slusky:

Mr. Parker and myself Primary Examiner Shingleton has come up with a proposed claim that truly addresses the allowable subject matter in the instant application.

The prior art is very close to the disclosed invention having basically the same load, inductors, switching transistor arrangement etc..

Most if not all the claims are directed toward structure and as has been recited extensively a claim drawn to structure must be distinguished by structure.

What you apparently believes distinguishes the examiner i.e. me respectfully disagrees with. The functional language is seen as an inherent feature and as the burden has shifted to applicant the examiner sees no convincing evidence otherwise. Also the rejection was multifaceted in that as the structure is the same as the prior art the prior art would be capable of providing the function. Again in a claim or claims drawn to structure these claims must be distinguished over the prior art in terms of structure. Again see MPEP 2114 and the previous office actions.

The following proposed claim is based on what appears to be the important or distinguishing part of the invention as set forth on page 11 of the original disclosure. Applicant recites that the term "switching signal" is used herein to refer to the signals that flow through the switching amplifier's bridges in response to the application of the pulse-width-modulated signals to the switching amplifier's bridge's. Thus the means that applies the switching signals is the bridge elements themselves and this is what is disclosed by the prior art. Again the 35 USC 112 first and second paragraph rejections of the previous rejection require applicant to point out specifically and exactly what structure is to be part of each means claimed and what structure that is not to be part of each means claimed. Based on applicant's own writings the means of the prior art is seen as every equivalent to the structure meant by applicant if it is not exact and the point applicant seems to be stressing is merely how one intends to use the claimed structure and not the claimed structure itself. Again the structure itself that is capable of providing the claimed function is what is to be granted the right to exclude others from making and not how the structure can or could be used. See again the previous office action and in particular the Halliburton Energy Services caselaw cited therein.

Figures 3A and 3B of the instant application recites the structure that produces PWM and inverse PWM signals and page 12 in paragraph 46 seems to point to the key to the invention. Claims like claim 17 is somewhat directed toward this idea, but still no structure different from that of the prior art is set forth and it is very much assumed that the prior art will function in this manner or as it is that same means that provides these switching signals this means can provide these "switching signal(s)" is seen as fully capable of being able to provide these functions i.e. what really amounts to intended use based on applicant's own disclosure as to what constitutes these means is so far as can be determined.

Applicant refers that the difference is not a fully bridge arrangement like applicant describes of the prior art but "[t]he latter controls a half-brige comprising FETs 35 and 47 etc. Again see pages 11 and 12 of the original disclosure.

What is needed is some structural difference that gets the invention beyond the structure of the prior art that does produce these "switching signals" or at the very least is fully capable of producing these "switching signals". The following proposed claim seems to achieve this and the examiner is willing to discuss this with applicant if he so chooses.

Proposed claim language

An apparatus comprising:

at least first and second reactive loads,

Serial No. 10/783,499

EXHIBIT A

Docket No. Zipfel 1

a first half-bridge means that generates a first switching signal and includes switching elements with respective control terminals, a second half-bridge means that generates a second switching signal and includes switching elements with respective control terminals, means for generating a first PWM signal that corresponds to a baseband signal, said first PWM signal applied to said control terminals of said first half bridge means, means for generating a second PWM signal that corresponds to said baseband signal but is the inverse of the first PWM signal, said second PWM signal applied to said control terminals of said second half bridge means,

(The original functional language like below can be included if wanted:) "wherein the means for generating functions so as to work with the means for applying ...said second reactive load"

(The proposed claim would end like this:)

Wherein at least one of said reactive loads is a transducer.

Hopefully this will help applicant move forward with allowable claimed subject matter. That is what is intended by the examiner and that is to help applicant get a patent quickly. This is why the examiner and his SPE has been so careful to point out the MPEP 2114 and the various case-law and the ways for applicant to overcome the prior art. That is why the examiner has wrote some 37 pages and providing drawing showing the reasonable basis to assume inherency etc. The examiner only wants to help but the examiner just cannot allow claims to structure that does not have distinguishing structure and hopefully applicant can appreciate the examiner's position more as it is the switching elements of the "inverter" or bridge that is recited as the means that causes these switching signals and that is the structure of the prior art. See page 11 of the specification.

Respectfully submitted,

Michael B Shingleton
Primary Examiner
Group Art Unit 2815

Serial No. 10/783,499

EXHIBIT B

Docket No. Zipfel 1

Dear Examiners Shingleton and Parker,

My thanks for your working up a claim that you would deem allowable.

1. We are prepared to accept the structure of the proposed claim, which I understand you to view be sufficiently directed to structure to avoid reading on Prokin.

I propose below a modified version of the claim you proposed, for reasons that I feel are important, as I explain just below. I show below a marked-up version of YOUR claim to help you see what changes I have made to your claim. Obviously, if we can agree to the claim as I have proposed it, I will be presenting a formal amendment which shows the changes from the version of claim 1 now officially on file.

2. Reasons for the changes to claim 1:

- a. I have added paragraphing for ease in reading the claim.
 - b. "half-bridge means"—Since Prokin also has half-bridge means, the term "half-bridge" does not help to distinguish the invention from Prokin. Applicants would thus rather use the term "circuit means."
 - c. "signal that corresponds to a baseband signal"—The phrase "corresponds to" is more general than we would like. Our proposed claim says that the PWM signal "includes a baseband signal" which is perhaps more specific and therefore I would think that you wouldn't have a problem with this.
 - d. "said first [or second] PWM signal applied to said control terminals..."—The difficulty here is that this phrase almost reads like a functional statement or a method step. We would prefer to have this applying function more tied to the recited apparatus. Thus we have included the "applying" function as part of the "means for generating" of your claim so as to recite a "means for generating....and for applying...". Since this puts your proposed language into more of an apparatus recitation, I would think that you wouldn't have a problem with this.
 - e. "baseband signal that is the inverse..." My proposed claim retains what you said about the baseband signal but further introduces recitations about the switching band fundamental components of the two PWM signals and their in-phase relationship. Since these changes make the claim more specific, I would think that you wouldn't have a problem with this.
 - f. "wherein at least one of said reactive loads is a transducer"—In the various Office actions, no patentable weight was allocated to this recitation in view of the prior art. Thus with the claim being now amended in other ways to distinguish over the prior art, per your suggestions, this particular recitation proves to be unnecessary. We have changed the claim to state that the reactive load is capacitive.
3. Once we agree on the final language for claim 1, I would
 - a. amend the other independent claims to have similar apparatus-type

Serial No. 10/783,499

EXHIBIT B

Docket No. Zipfel 1

- recitations,
- b. perhaps add dependent claims to recite the language that Examiner Parker had previously suggested, i.e., "wherein the means for generating functions so as to work with the means for applying ...said second reactive load"
 - c. amend the dependent claims as necessary to conform their language to the amended independent claims.
- 4. Once we have agreed on the final language for all of the independent claims, which are generic to the two-load and more-than-two-load embodiments, it would seem that the various withdrawn dependent claims can be rejoined with the other claims in the application.
 - 5. Claim 63: I again ask both you and Examiner Parker to look carefully at claim 63 and, in particular, the recitation shown in **large font** hereinbelow. The recited load filters of this claim correspond to, for example, elements 39 and 43 in the embodiment of FIG. 4A.

Prokin may have filters in the corresponding locations in his circuits. However, as I have been pointing out, any such filters in Prokin do not meet applicant's recited limitation regarding the filters' passband and stop band.

Thus regardless of the issues that we have been grappling with relative to functional recitations, claim 63 includes an apparatus limitation that is clearly not met by Prokin.

Ron Slusky
212 246 4546

1

Serial No. 10/783,499

EXHIBIT B

Docket No. Zipfel 1

2 1. Apparatus comprising
3 at least first and second reactive loads,
4 a first half bridge circuit means that generates a first switching signal and includes
5 switching elements with respective control terminals,
6 a second half bridge circuit means that generates a second switching signal and
7 includes switching elements with respective control terminals,
8 means for generating a first PWM signal that corresponds to that includes a
9 fundamental switching band signal component and that further includes a baseband signal
10 and for applying said first PWM signal applied to said control terminals of said first half
11 bridge circuit means,
12 means for generating a second PWM signal that corresponds to includes a
13 fundamental switching band component that has substantially the same magnitude and
14 phase as the fundamental switching band component of said first PWM signal, and that
15 further includes a baseband signal that is the inverse of said baseband signal but is the
16 inverse of that is included in the first PWM signal, and for applying said second PWM
17 signal applied to said control terminals of said second half bridge means,
18 wherein at least one of said reactive loads is a ~~transducer~~-capacitive load.

1

1 63. A switching amplifier operating at a particular switching frequency, the
2 switching amplifier comprising
3 at least first and second circuit paths,
4 each of said paths comprising switching circuitry, a load filter, a respective port of
5 a common-mode inductor and a transducer, all connected in series, each transducer
6 having a terminal that is connected to a power supply node in common with each other
7 transducer, **each load filter having a passband that includes said**
8 **particular switching frequency and having a stop band at**
9 **frequencies higher than said particular switching frequency,**
10 said switching circuitry being operative in response to a first pulse-width-
11 modulated signal to cause first and second voltages of a first switching signal to be

Serial No. 10/783,499

EXHIBIT B

Docket No. Zipfel 1

- 12 alternately impressed between the load filter of said first circuit path and said common
13 node and being further operative in response to a second pulse-width-modulated signal to
14 cause first and second voltages of a second switching signal to be alternately impressed
15 between the load filter of said second circuit path and said common node,
16 said first and second switching signals having respective fundamental switching
17 components that are of substantially equal magnitude and phase so that they are canceled
18 by said common-mode inductor, said first and second switching signals each further
19 having at least one respective baseband component, the baseband components of said
20 first and second switching signals being such that substantially the same amount of
21 current at baseband frequencies flowing out of one or more of said transducers at a given
22 time flows into one or more of the others of said loads, and
23 substantially all of said at least one baseband component of said first switching
24 signal being a current that flows into one of said transducers and substantially all of said
25 at least one baseband component of said second switching signal being a current that
26 flows into another of said transducers.